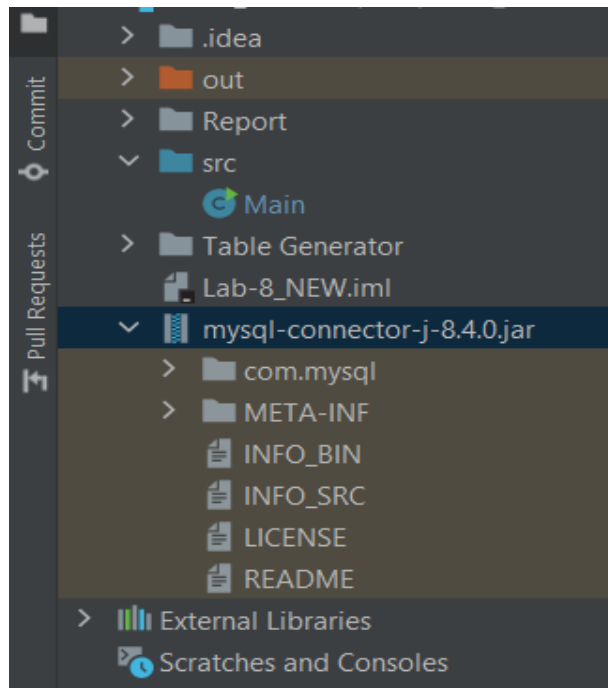


# **SQL Report(Lab 8)**

**ID : 220042146**

## **Added MySQL Connector in the Java Project :**



## **Connected the Database Schema to Java Project:**

```
static final String URL =  
"jdbc:mysql://localhost:3306/lab-8";  
static final String USER = "root";  
static final String PASSWORD = "*****";
```

```
Class.forName("com.mysql.cj.jdbc.Driver");  
  
Connection con =  
DriverManager.getConnection(URL, USER, PASSWORD);  
  
System.out.println("Connected to database  
successfully.");
```

### **Task-1:Count total transactions for account 49:**

```
Statement stmt1 = con.createStatement();
ResultSet rs1 =
stmt1.executeQuery("SELECT COUNT(*)
AS totalTransactions
FROM TRANSACTIONS
WHERE A_ID = 49");

if (rs1.next()) {
    System.out.println("Total transactions for
account 49: " +
rs1.getInt("totalTransactions"));
}
rs1.close();
stmt1.close();
```

### **Task 2: Count number of credit transactions :**

```
Statement stmt2 = con.createStatement();
ResultSet rs2 =
stmt2.executeQuery("SELECT COUNT(*)
AS creditCount
FROM TRANSACTIONS WHERE TYPE = 0");
if (rs2.next()) {
    System.out.println("Total credit transactions: "+
rs2.getInt("creditCount"));
}
rs2.close();
stmt2.close();
```

## Output for Task 1 & 2:

```
Total transactions for account 49: 8
Total credit transactions: 755
```

=====))\*((=====

## **Task 3: List transactions in the last 6 months of 2021 :**

```
String query3 = "SELECT * FROM TRANSACTIONS
WHERE DTM BETWEEN '2021-07-01' AND '2021-12-31'";

ResultSet rs3 = stmt3.executeQuery(query3);
System.out.println("Transactions from the last 6
months of 2021:");

while (rs3.next()) {
    int t_id = rs3.getInt("T_ID");
    Date dtm = rs3.getDate("DTM");
    int a_id = rs3.getInt("A_ID");
    double amount = rs3.getDouble("AMOUNT");
    int type = rs3.getInt("TYPE");
    System.out.println("T_ID: " + t_id + ", Date: "
        + dtm + ", Account: " + a_id
        + ", Amount: " + amount + ", Type: "
        + (type == 0 ? "Credit" : "Debit"));
}
```

*?? But No Transaction is occurring in the output because no transaction has been done within last six month of 2021 :*

```
Transactions from the last 6 months of 2021:
```

- *If we enlist those of Last 6 years, then it showed output like this :*

```
Transactions from the last 6 years of 2021:
T_ID: 10, Date: 2016-04-12, Account: 4, Amount: 1106.55, Type: Credit
T_ID: 22, Date: 2016-12-29, Account: 6, Amount: 1054.9, Type: Debit
T_ID: 32, Date: 2016-09-10, Account: 7, Amount: 1097.0, Type: Credit
T_ID: 37, Date: 2016-09-13, Account: 8, Amount: 1247.15, Type: Credit
T_ID: 39, Date: 2016-04-11, Account: 8, Amount: 1117.62, Type: Credit
T_ID: 45, Date: 2016-12-13, Account: 11, Amount: 1007.36, Type: Credit
T_ID: 107, Date: 2016-05-21, Account: 20, Amount: 1143.01, Type: Credit
T_ID: 115, Date: 2016-06-20, Account: 21, Amount: 1050.54, Type: Debit
T_ID: 116, Date: 2016-03-05, Account: 21, Amount: 1030.51, Type: Debit
T_ID: 132, Date: 2016-08-20, Account: 22, Amount: 1101.74, Type: Debit
```

Run | TODO | Problems | Terminal | Services | Build

## **Task 4 - Classify Accounts into CIP, VIP, OP, and Others :**

- **Query:**

```
Statement stmt4 = con.createStatement();

String query4 = "SELECT A_ID, " +
    "SUM(CASE WHEN TYPE = 0 THEN AMOUNT ELSE 0" +
    "END) AS totalCredit, " +
    "SUM(CASE WHEN TYPE = 1 THEN AMOUNT ELSE 0" +
    "END) AS totalDebit, " +
    "SUM(AMOUNT) AS totalTransacted, " +
    "(SUM(CASE WHEN TYPE = 0 THEN AMOUNT ELSE 0" +
    "END) - " +
    "SUM(CASE WHEN TYPE = 1 THEN AMOUNT ELSE 0" +
    "END)) AS balance, " +
    "CASE " +
    "WHEN (SUM(CASE WHEN TYPE = 0 THEN AMOUNT" +
    "ELSE 0 END) - " +
    "SUM(CASE WHEN TYPE = 1 THEN AMOUNT ELSE 0" +
    "END)) > 1000000 " +
    "AND SUM(AMOUNT) > 5000000 THEN 'CIP' "
```

```

+
    "WHEN (SUM(CASE WHEN TYPE = 0 THEN AMOUNT
ELSE 0 END) - " +
        "SUM(CASE WHEN TYPE = 1 THEN AMOUNT ELSE 0
END)) BETWEEN 500000 AND 900000 " +
        "AND SUM(AMOUNT) BETWEEN 2500000 AND
4500000 THEN 'VIP' "
+
    "WHEN (SUM(CASE WHEN TYPE = 0 THEN AMOUNT
ELSE 0 END) - " +
        "SUM(CASE WHEN TYPE = 1 THEN AMOUNT ELSE 0
END)) < 100000 " +
        "AND SUM(AMOUNT) < 1000000 THEN 'OP' "
+
    "ELSE 'Other' "
+
    "END AS AccountType "
+
    "FROM TRANSACTIONS " +
    "GROUP BY A_ID";

ResultSet rs4 = stmt4.executeQuery(query4);

```

- **Counters:**

```

int cipCount = 0, vipCount = 0, opCount = 0,
otherCount = 0;
while (rs4.next()) {
    String type = rs4.getString("AccountType");
    switch (type) {
        case "CIP":
            cipCount++;
            break;

```

```
        case "VIP":
            vipCount++;
            break;
        case "OP":
            opCount++;
            break;
        default:
            otherCount++;
    }
}
```

- ***Printing result :***

```
System.out.println("Account classification:");
System.out.println("CIP: " + cipCount);
System.out.println("VIP: " + vipCount);
System.out.println("OP: " + opCount);
System.out.println("Others: " + otherCount);
```

## **Output for Task 4:**

```
Account classification:
CIP: 0
VIP: 0
OP: 273
Others: 0
```

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